

Natural Resources Conservation Service

Colorado Basin Outlook Report May 1, 2005



Basin Outlook Reports and Federal - State - Private Cooperative Snow Surveys

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How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

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COLORADO WATER SUPPLY OUTLOOK REPORT MAY 1, 2005

Summary

As has been the case for most of the winter season, snowpacks in the northern basins remain below average, while well above average snowpack conditions continue to be the norm in the southern basins. Overall, statewide snowpack totals are near, if just slightly below, average. Reflective of the snowpack conditions, runoff is expected to favor the basins in the southern portion of the state, while the northern basins should expect below average spring and summer streamflows. Reservoir storage remains below average in all the Colorado basins. With the snow accumulation season essentially over for this year, the northern basins could benefit from better than normal precipitation during the late spring and summer to help reduce the impacts of their below average snowpacks.

Snowpack

As in previous months, Colorado's statewide snowpack percent of average value continues to be one of the highest in the last several years. May 1 snow surveys show the statewide totals to be slightly below normal at 99% of average and 46% above those measured a year ago at this time. Despite a spring snowstorm early in the month whose effects were felt along the Front Range and in the eastern plains of the state, April was essentially turning out to be a warm, dry month in the higher elevations and by mid-month melting had begun in all the basins throughout the state. Then in the last week of the month, things turned around and the entire state saw improvement in their snowpack conditions. Based on SNOTEL data, the South Platte actually saw a second peak in snow water content in April that surpassed the one posted earlier in the month. The basins in the southern portion of the state continued to show the highest snowpack percentages. At 139% of average, the Upper Rio Grande Basin has the highest figure once again this month. Not far behind, snowpack in the combined San Miguel, Dolores, Animas and San Juan basin measure in at 135% of average. The Gunnison River Basin and the Arkansas River Basin also reported above average snowpacks at 125% of average and 107% of average, respectively. The northern basins once again posted the lowest snowpack totals in the state. The South Platte continues to have the lowest snowpack percent of average at only 77% with the Yampa, White and North Platte River Basin only slightly ahead with 78% of average. In terms of percent of average, May 1 saw a decline in all the basins from the previous month. The largest change was reported in the Yampa, White and North Platte River basins (-12%) while the Upper Rio Grande exhibited the smallest reduction (-1%). May 1 snowpacks this year were higher in all the basins when compared to measurements a year ago.

Precipitation

Mountain precipitation in April was just slightly above average for the state. Measurements from the 91 SNOTEL sites across the state indicate April precipitation was 102% of average. The above average conditions were due in large part to the storms that hit Colorado during the last week of the month. Only three basins in the state reported below average precipitation during April; they were the South Platte (99%), the Yampa, White and North Platte basins (94%) and the San Miguel, Dolores, Animas and San Juan basins (98%). At 110% of average, the Upper Rio Grande recorded the highest April precipitation. Colorado's water year precipitation totals (beginning October 1) are 104% of average and 117% of the water year total reported a year ago. Basins with below average water year totals include the Upper Colorado at 97% of average, the South Platte and the Yampa, White, and North Platte basins, both at 88% of average. At 131% of average, the Upper Rio Grande posted the highest water year to date totals.

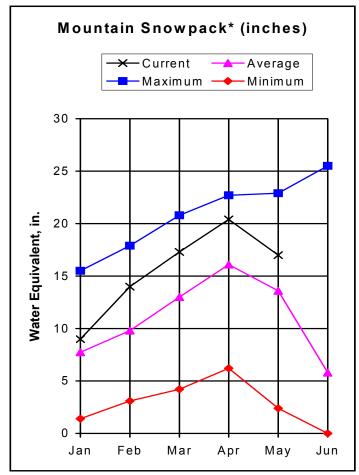
Reservoir Storage

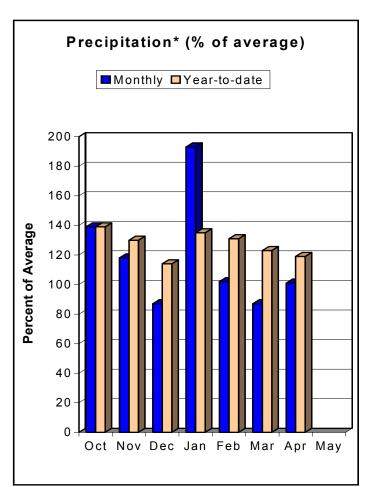
Reservoir storage is below average for all the basins in Colorado. However, despite that, the streak where statewide deficits decreased has improved to 9 consecutive months. This month's deficit is approximately 360,000 acre-feet below the average mark for May 1; up from the 449,000 acre-feet deficit reported last month. The current statewide reservoir storage is 89% of average and 106% of storage recorded a year ago. The basins with the highest percent of average storage include the Yampa, White and North Platte River basins and the San Miguel Dolores, Animas and San Juan River basins, both of which reported at 98% of average. The Gunnison River Basin and the South Platte River Basin, both with 97% of average reservoir storage, placed a close second. At 56% of average reservoir storage, the Upper Rio Grande Basin posted the lowest percent of average figure in the state. With a deficit of 138,000 acre-feet, the Arkansas River Basin continues to report the greatest deficit in terms of volume. Based on this month's forecast, the southern basins show the best chances to see recovery in reservoir storage this year.

Streamflow

As one would expect from looking at the snowpack conditions, water supply outlooks for spring and summer runoff tend to be better in the southern basins and worsen as you move northward. The highest forecasts are expected in the lower portion of the Arkansas and the San Juan and Animas drainages where the volumes are predicted to be over 150% of average at most of the forecast points in the basin. Runoff in the Upper Rio Grande is predicted to be mostly in the 130%-150% range. The Gunnison River Basin can expect most streamflows to range from near average to above average. The remainder of the state is looking at below average to well below average runoff for this spring and summer with the lowest forecasts expected in the South Platte and North Platte River Basins.

GUNNISON RIVER BASIN as of May 1, 2005





Like other drainages in Southern Colorado, the Gunnison has benefited from above average snowpack all winter. A series of storms in late April kept snow levels at 125% of average as of May 1, very close to the 127% of average recorded last month, and the highest May 1 snowpack since 1997. Most rivers in the Gunnison drainage fall in line at around 125% of average with the exception of Surface Creek, which contains 145% of its average snowpack based on measurements from three SNOTEL sites in the basin. Despite about average precipitation for the month of April, year to date precipitation remains above average at 119% of average. Reservoir storage in the basin is at about the average, 97% of average, but only 87% of storage from last year at this time. Expect average to well above average streamflow throughout the Gunnison basin this spring. Flows should range from 93% of average on Tomichi Creek at Gunnison to as high as 158% of average on Surface Creek at Cedaredge.

^{*}Based on selected stations

GUNNISON RIVER BASIN

Streamflow Forecasts - May 1, 2005

				- May 1, 20				
						Wetter		
Forecast Point	Forecast Period	90% (1000AF)	70% (1000AF)	 (1000AF	50% ') (% AVG.)	======================================	10% (1000AF)	30-Yr Avg. (1000AF)
Taylor River blw Taylor Park Resv	APR-JUL	78	91	100	97	110	125	103
Slate River nr Crested Butte	APR-JUL	85	93	98	110	104	112	89
East River at Almont	APR-JUL	165	182	195	102	205	230	192
Gunnison River nr Gunnison	APR-JUL	300	350	390	100	430	500	390
Tomichi Creek at Sargents	APR-JUL	23	28	32	100	36	43	32
Cochetopa Creek blw Rock Creek	APR-JUL	11.9	15.6	18.5	107	22	28	17.3
Tomichi Creek at Gunnison	APR-JUL	47	62	I I 75	93	90	114	81
Lake Fork at Gateview	APR-JUL	117	131	140	111	150	165	126
Blue Mesa Reservoir Inflow	APR-JUL	625	700	 750	104	805 	895	720
Paonia Reservoir Inflow	MAR-JUN APR-JUL	122 124	141 146	155 160	155 157	171 177	196 205	100 102
N.F. Gunnison River nr Somerset	APR-JUL	360	405	435	143	470	520	305
Surface Creek at Cedaredge	APR-JUL	21	25	27	158	30	34	17.1
Ridgway Reservoir Inflow	APR-JUL	92	102	110	108	118	132	102
Uncompangre River at Colona	APR-JUL	110	132	150	108	170	200	139
Gunnison River nr Grand Junction	APR-JUL	1450	1660	1800	115	1940	2150	1560
GUNNISON Reservoir Storage (100	RIVER BASIN 00 AF) - End	of April		l	Watershed S	GUNNISON RIVER : Snowpack Analys	BASIN is - May 1,	2005
Reservoir	Usable Capacity	*** Usabl	e Storage * Last	**	ershed	Numbe of Data Si	r This	Year as % of

	Reservoir Storage (1000	AF) - End	of April	L			k Analysis - May 1, 2005			
Reservoir		Usable Capacity	*** Usa This Year	able Stora Last Year	ge *** Avg	 Watershed 	Number of Data Sites	This Yea	r as % of Average	
BLUE MESA		830.0	376.7	453.9	404.7	UPPER GUNNISON BASIN	15	167	124	
CRAWFORD		14.3	8.8	10.3	12.1	SURFACE CREEK BASIN	3	154	145	
FRUITGROWER	S	4.3	4.5	4.4	4.1	UNCOMPAHGRE BASIN	4	177	126	
FRUITLAND		9.2	3.1	6.2	4.9	 TOTAL GUNNISON RIVER E	BASI 19	169	125	
MORROW POIN	Γ	121.0	110.3	110.0	113.4	 				
PAONIA		18.0	0.5	5.7	7.4	 				
RIDGWAY		83.2	68.6	71.6	57.9	 				
TAYLOR PARK		106.0	69.8	77.1	59.9	 				

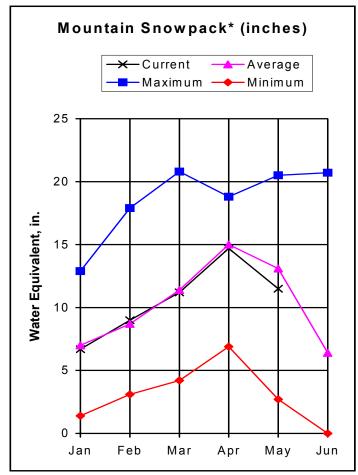
^{* 90%, 70%, 50%, 30%,} and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

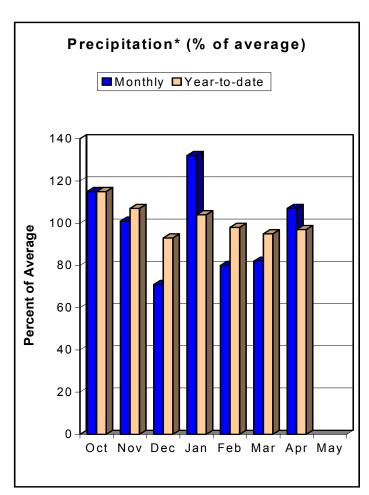
The average is computed for the 1971-2000 base period.

^{(1) -} The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

⁽²⁾ - The value is natural volume - actual volume may be affected by upstream water management.

UPPER COLORADO RIVER BASIN as of May 1, 2005





The Colorado River basin saw stable snow levels early in April followed by a sharp drop in snowpack during mid April. Despite the efforts of a series of storms later in the month, basin wide snowpack in the Colorado River basin is still down to 88% of average from 98% of average last month. The Blue River, Muddy Creek, Upper Colorado, and Williams Fork basins are all well below average, ranging from as low as 59% of average on Muddy Creek to 82% of average on the Williams Fork. In the meantime, sub-basins in the southern portions of the watershed are considerably better off. Plateau Creek and the Roaring Fork are showing snowpacks above the 30 year average at 145% and 103% of average, respectively. Precipitation for the month of April was about average at 99% of average, keeping year to date precipitation below average at 88% of average despite a series of storms in late April. Reservoir storage at the end of April rose to 81% of average, up from 77% of average last month. Look for mostly below average streamflows throughout the Colorado River basin this spring. The Roaring Fork at Glenwood Springs is the exception at an expected 99% of average. Expect 76% of average flow for the Colorado near Dotsero.

^{*}Based on selected stations

UPPER COLORADO RIVER BASIN

Streamflow Forecasts - May 1, 2005

		<<=====	======================================	=====	Future Co	======= nditions =		Wetter	====>>		=======
Forecast Point	Forecast Period	90% (1000AF)	70% (1000AF)	 	(1000AF) ⁵		(30% 1000AF)	10% (1000AF	j 3	0-Yr Avg. (1000AF)
Lake Granby Inflow	APR-JUL	158	174	=== ===	185	82	: ===== 	197	216	=====	225
Willow Creek Reservoir Inflow	APR-JUL	31	39	ļ ļ	45	88		51	62		51
Williams Fork Reservoir inflow	APR-JUL	64	73		80	84		87	98		95
Dillon Reservoir Inflow	APR-JUL	97	113		125	75		137	153		167
Green Mountain Reservoir inflow	APR-JUL	188	210		225	80		241	265		280
Muddy Creek blw Wolford Mtn. Resv.	APR-JUL	33	37		40	67		43	49		60
Eagle River blw Gypsum	APR-JUL	212	239		260	78		283	319		335
Colorado River nr Dotsero	APR-JUL	780	970		1100	76		1230	1420		1440
Ruedi Reservoir Inflow	APR-JUL	77	93		105	75		119	143		141
Roaring Fork at Glenwood Springs	APR-JUL	557	640		700	99		762	859		710
Colorado River nr Cameo	APR-JUL	1410	1730		1950	81		2170	2490		2420
UPPER COLORAL Reservoir Storage (1000	OO RIVER BAS	IN	:======	=====	1		ER COLO	====== RADO RIVE k Analysi		1, 20	05
Reservoir	Usable Capacity	*** Usab This Year	le Storage Last Year	Ava = ***	 Water	shed		Number of Data Sit	==		r as % of ====== Average
DILLON	250.8	197.2	209.7	212.8	BLUE	======= RIVER BASIN	 J		12		75
LAKE GRANBY	465.6	128.1	163.4	259.5	İ	COLORADO F		AST 35	15		77
GREEN MOUNTAIN	139.0	69.3	68.5	54.3	MUDDY	CREEK BASI	IN.	3	22	6	59
HOMESTAKE	43.0	12.7	13.6	16.8	PLATE	AU CREEK BA	ASIN	3	15	4	145
RUEDI	102.0	67.2	65.5	59.7	i	NG FORK BAS		8	18		103
VEGA	32.0	21.8	16.2	16.6	 WILLI	AMS FORK BA	ASIN	4	15	3	82

^{* 90%, 70%, 50%, 30%,} and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

96.8 54.4 63.8 55.3 | WILLOW CREEK BASIN

9.0 6.4 6.6 5.9 TOTAL COLORADO RIVER BASI 46

3

127

79

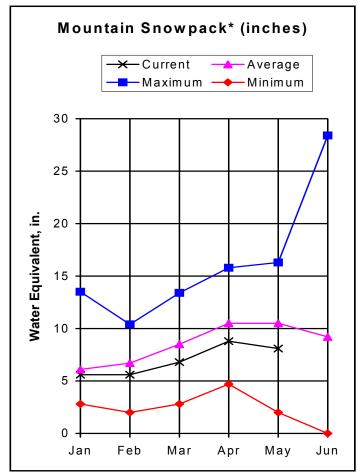
The average is computed for the 1971-2000 base period.

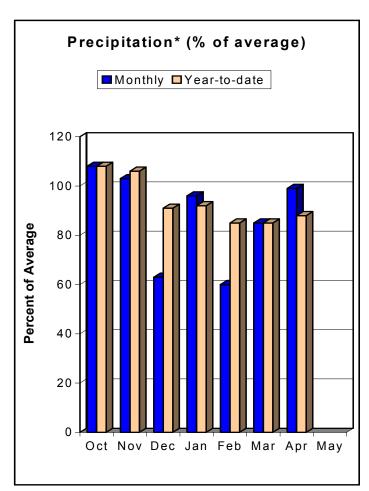
WILLIAMS FORK

WILLOW CREEK

^{(1) -} The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels. (2) - The value is natural volume - actual volume may be affected by upstream water management.

SOUTH PLATTE RIVER BASIN as of May 1, 2005





What looked like the beginnings of the spring meltout quickly turned into a boost for the snowpack as a very wet last week of April helped preserve some moisture in an otherwise dry South Platte River basin. The increase, however, was not enough to push snow levels to the 30 year average on May 1. Despite the precipitation late in April, snowpack levels in the South Platte drainage are 77% of the May 1 average, down from 84% of average last month. Snow levels in all sub-basins of the South Platte drainage remain below average and range from 59% of average on the St. Vrain to 96% of average on Boulder Creek. Late April precipitation brought precipitation for the month up to about average, while precipitation since October 1 remained below average at 88% of average but up from 85% of average last month. Streamflows on the South Platte should be a reflection of the low snowpack levels. This coming spring and summer should see flows as low as 60% of average at the Antero Reservoir inlet to about 87% of average on the Cache la Poudre at the canyon mouth, Boulder Creek near Orodell, and South Boulder Creek near Eldorado Springs. Good news on the South Platte is that reservoir storage remains near average at 98% of average and 118% of storage for this time last year.

^{*}Based on selected stations

SOUTH PLATTE RIVER BASIN

Streamflow Forecasts - May 1, 2005

	======	======== <<======	Drier ====	== Future Co	onditions ==	===== Wetter	=====>>	========
Forecast Point	Forecast	 =======		= Chance Of E	Exceeding * =	.========	=======	
10100000 101110	Period	90%	70%		50% I	30%	10%	30-Yr Avg.
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
Antero Reservoir inflow	MAY-JUL	5.4	7.4	9.2	60 l	11.4	15.7	15.4
	MAY-SEP	6.6	9.3	11.7	61 i	14.8	21	19.2
Spinney Mountain Reservoir inflow	MAY-JUL	19.0	26	j 33	65 i	41	57	51
* *	MAY-SEP	23	33	42	66 i	54	78	64
Elevenmile Canyon Reservoir inflow	MAY-JUL	20	27	I 34	64 i	42	58	53
	MAY-SEP	23	34	44	66 i	57	83	67
Cheesman Lake inflow	MAY-JUL	38	53	I 66	65 i	82	113	102
	MAY-SEP	45	65	i 85	66 i	110	162	129
South Platte River at South Platte	MAY-JUL	62	87	I 109	60 i	137	191	182
	MAY-SEP	78	112	143	62	183	261	230
Bear Creek abv Evergreen	MAY-JUL	5.9	8.8	11.5	67 i	15.0	22	17.3
•	MAY-SEP	8.4	12.5	16.3	71 i	21	32	23
Bear Creek at Morrison	MAY-JUL	5.8	9.3	12.9	61 i	17.9	29	21
	MAY-SEP	8.1	13.0	18.0	67 i	25	40	27
Clear Creek at Golden	APR-JUL	66	77	85	77 j	93	104	110
	APR-SEP	80	94	103	77 i	112	126	134
St. Vrain Creek at Lyons	APR-JUL	53	64	71	77 j	78	89	92
-	APR-SEP	63	75	83	78 I	91	103	107
Boulder Creek nr Orodell	APR-JUL	33	37	40	87 j	43	47	46
	APR-SEP	37	43	46	87	49	55	53
South Boulder nr Eldorado Spgs	APR-JUL	27	32	I 36	87 i	40	45	41
	APR-SEP	29	36	40	88	44	51	46
Big Thompson River at mouth nr Drake	APR-JUL	60	71	78	80	85	96	98
	APR-SEP	73	86	95	81 i	104	117	117
CACHE LaPOUDRE at Canyon Mouth	APR-JUL	167	195	215	88	235	265	245
•	APR-SEP	185	220	240	87 j	260	295	275
	=======		=======	========			=======	

SOUTH PLATTE RIVER BASIN Reservoir Storage (1000 AF) - End of April

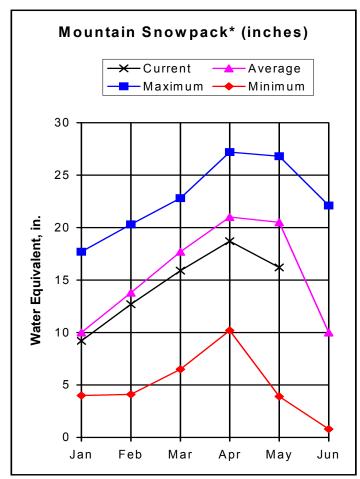
SOUTH PLATTE RIVER BASIN Watershed Snowpack Analysis - May 1, 2005

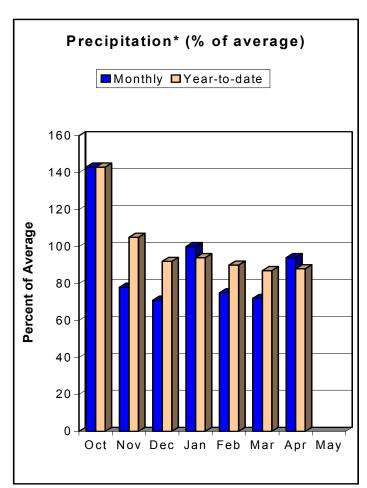
Reservoir					Watershed	Number of	This Yea	r as % of
	1	Year	Year	Avg		Data Sites	Last Yr	Average
ANTERO		1.5	0 0	15 7 i	BIG THOMPSON BASIN	7	108	72
BARR LAKE			19.6	28.6	BOULDER CREEK BASIN CACHE LA POUDRE BASIN CLEAR CREEK BASIN	5	148	96
BLACK HOLLOW	8.0	1.7 43.4	2.7	4.2	CACHE LA POUDRE BASIN	8	129	73
BOYD LAKE	49.0	43.4	30.5	35.2	CLEAR CREEK BASIN	4	134	83
CACHE LA POUDRE	10.0	7.9	5.2	8.9	SAINT VRAIN BASIN UPPER SOUTH PLATTE BAS TOTAL SOUTH PLATTE BAS	4	114	59
CARTER	108.9	93.9	64.8	103.0	UPPER SOUTH PLATTE BAS	IN 15	106	80
CHAMBERS LAKE	9.0	5.1	5.8	3.6	TOTAL SOUTH PLATTE BAS	IN 43	120	77
CHEESMAN	79.0	78.7	63.6	64.8				
COBB LAKE	34.0	3.5	5.2	14.2				
ELEVEN MILE	97.8	98.7	78.9					
EMPIRE		33.7		33.0				
FOSSIL CREEK	12.0	10.3	6.7	8.1				
GROSS	41.8	21.5		20.9				
HALLIGAN				4.8				
HORSECREEK	16.0		12.3					
HORSETOOTH	149.7		148.9					
JACKSON			23.7	30.4				
JULESBURG			18.6	21.3				
LAKE LOVELAND		8.9		10.1				
LONE TREE				7.9				
MARIANO		5.6		5.0				
MARSHALL			8.0					
MARSTON	13.0	11.6	4.8	14.5				
MILTON	24.0	22.8	18.1	19.2				
POINT OF ROCKS	70.0		56.1	69.8				
PREWITT	28.2	23.6	8.5	25.9				
RIVERSIDE	63.1	55.6	43.0	57.9				
SPINNEY MOUNTAIN	48.7		17.3	32.1				
STANDLEY	42.0	41.2	38.8	35.3				
TERRY LAKE	8.0		5.7	5.7				
UNION	13.0		9.8	11.7				
WINDSOR	19.0	11.0	9.5	13.6				

^{* 90%, 70%, 50%, 30%,} and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

^{(1) -} The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels. (2) - The value is natural volume - actual volume may be affected by upstream water management.

YAMPA, WHITE, NORTH PLATTE AND LARAMIE RIVER BASINS as of May 1, 2005





Precipitation late in April did little to help what is turning out to be a very dry year in Northwest Colorado. Snowpack levels in the Yampa, White, North Platte, and Laramie River basins are at 79% of average, down from 89% of average last month. The current snowpack is 138% of snow levels at this time last year. Even the Elk and Little Snake Rivers, which were as high as 102% of average last month, are down to 84% and 88% of average, respectively. This April brought 94% of its average precipitation, keeping year to date precipitation at 88%. Reservoir levels in the area are at 98% of average and 93% of the volume stored at this time last year. Streamflow on the Yampa, White, North Platte, and Laramie basins should reflect the low snowpack levels. The Elk River at Milner should be the only point near average with an expected 94% of average flow for April through July. Expect 68% (White River, North Platte near Northgate) to 86% (Little Snake River) of average streamflow in the rest of the basins.

^{*}Based on selected stations

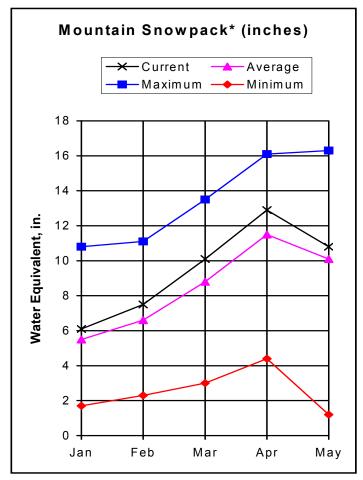
YAMPA, WHITE, AND NORTH PLATTE RIVER BASINS Streamflow Forecasts - May 1, 2005

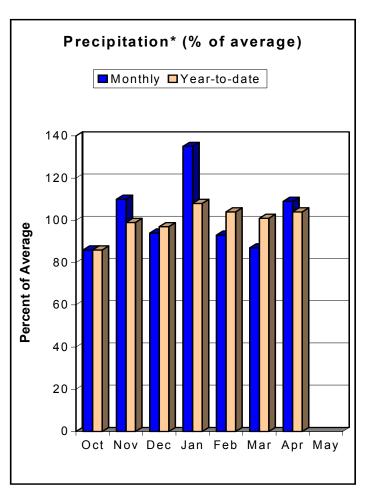
			w forecast							
						nditions ==				
Forecast Point		90% (1000AF)	70% (1000AF)	I	(1000AF)		30 (100	% OAF) (1	10% 000AF)	
NORTH PLATTE RIVER nr Northgate	MAY-JUL MAY-SEP	97 99	122 135	== === 	140 160	68 70	1	60 85	191 219	205 230
LARAMIE RIVER nr Woods	MAY-JUL MAY-SEP	47 51	71 78	į	87 96	76 76		03 14	127 141	115 127
Yampa R abv Stagecoach Res	APR-JUL	16.8	19.1	ļ	21	72		23	25	29
Yampa River at Steamboat Springs	APR-JUL	157	179	ļ	195	70	2	15	240	280
Elk River nr Milner	APR-JUL	240	280	-	305	94	3	35	375	325
Elkhead Creek nr Elkhead	APR-JUL	23	27		31	80		35	41	39
ELKHEAD CREEK blw Maynard Gulch	APR-JUL	33	43		50	85		57	67	59
Fortification Ck nr Fortification	MAR-JUN	3.70	4.90		6.00	80	7.	50 1	0.30	7.50
Yampa River nr Maybell	APR-JUL	575	675		740	75	8	10	930	990
Little Snake River nr Slater	APR-JUL	103	122		137	86	1	53	175	159
LITTLE SNAKE R nr Dixon	APR-JUL	198	250		285	86	3	25	390	330
LITTLE SNAKE R nr Lily	APR-JUL	220	270		310	85	3	50	420	365
White River nr Meeker	APR-JUL	149	176		198	68 	2	22	264	290
YAMPA, WHITE, AND NO Reservoir Storage (100	ORTH PLATTE :	RIVER BASII of April	NS		YA	AMPA, WHITE, Watershed Sr	AND NOR nowpack A	TH PLATT nalysis	E RIVER - May 1,	BASINS 2005
Reservoir	Usable	*** Usab	le Storage		1			Number	This	Year as % of
		Year	Last Year	Avg	Waters				Last	Yr Average
STAGECOACH	33.3	29.5	30.5	28.1		IE RIVER BAS		4	118	75
YAMCOLO	9.1	5.4	7.0	7.4	NORTH	PLATTE RIVE	R BASIN	11	128	79
					TOTAL	NORTH PLATT	E BASIN	14	125	80
					 ELK RI	IVER BASIN		2	247	84
					 YAMPA	RIVER BASIN	1	12	150	72
					 WHITE	RIVER BASIN	1	6	117	73
					 TOTAL YAMPA AND WHITE RIV		17	142	72	
					 LITTLE	E SNAKE RIVE	R BASIN	8	150	89
					 TOTAL	YAMPA, WHIT	E AND NO	36	137	79
					1					

______ * 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

^{(1) -} The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels. (2) - The value is natural volume - actual volume may be affected by upstream water management.

ARKANSAS RIVER BASIN as of May 1, 2005





Nowhere in the state is the division between a wet water year in the south and a dry water year in the north more evident than in the Arkansas River basin. Simply saying that snowpack levels are at 107% of average as of May 1 does not paint a very detailed picture of water supply. The southern sub-basins of the Arkansas are carrying snowpacks of well above average, with the Cucharas and Huerfano watersheds at 173% of average and the Purgatoire at 234% of average. Snowpack levels on the Upper Arkansas, on the other hand, remain below average and are more in line with the snowpack levels of the neighboring Upper Colorado and Upper South Platte watersheds. The Upper Arkansas is at 84% of its average snowpack, down from 94% of average last month. The distribution of snow will favor water users in the southern and downstream portions of the Arkansas watershed. April saw 109% of its average basin wide precipitation, leaving the year to date precipitation at 104% of its average. Reservoir levels in the Arkansas basin are at 75% of average and 142% of storage at this time last year. Look for streamflows to be higher in the southern sub-basins and points downstream. The Arkansas at Salida is predicted to post average flows, with Grape Creek near Westcliffe at 133% of average and the Huerfano near Redwing at 148% of average. The highest flows in the Arkansas basin are expected on the Cucharas near La Veta at 169% of average.

^{*}Based on selected stations

ARKANSAS RIVER BASIN

ARRANDAD RIVER BASIN Streamflow Forecasts - May 1, 2005

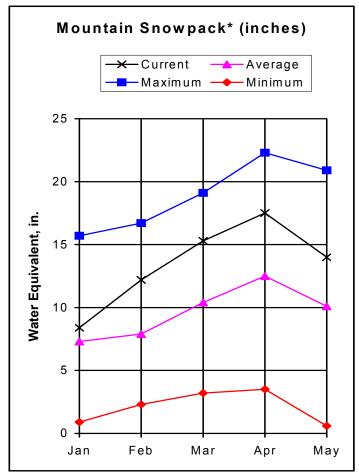
	 	 <<===== 	Drier ====	== Future Co	onditions ==	===== Wetter	====>>	
Forecast Point	Forecast Period	====== 90% (1000AF)	70% (1000AF)		Exceeding * = 50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Chalk Creek nr Nathrop	APR-SEP	12.0	19.0	23	85	27	34	27
Arkansas River at Salida	APR-SEP	230	275	310	100	345	390	310
Grape Creek nr Westcliffe	APR-SEP	13.0	21	26	133	31	39	19.6
Pueblo Reservoir Inflow	APR-SEP	320	390	435	101	480	550	430
Huerfano River nr Redwing	APR-SEP	18.4	21	23	148	25	28	15.5
Cucharas River nr La Veta	APR-SEP	17.0	20	22	169	24	27	13.0
Trinidad Lake Inflow	APR-SEP	51	62	 70 	159	78	89	44

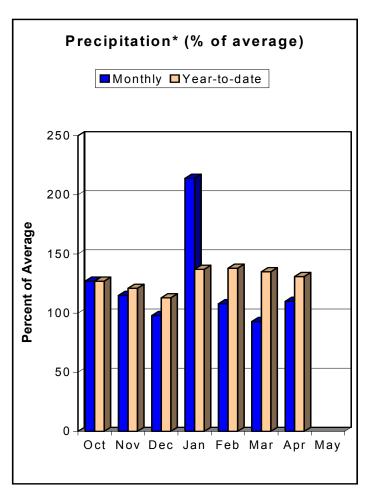
ARKANSA Reservoir Storage (1	AS RIVER BASIN 1000 AF) - End	of April		 	ARKANSA Watershed Snowpac		2005		
Reservoir	Usable Capacity	*** Usa This	ble Stora Last	ge *** 	Watershed	Number of		r as % of	
		Year	Year	Avg		Data Sites	Last Yr	Average	
ADOBE	70.0	0.0	0.0	34.3	UPPER ARKANSAS BASIN	9	104	85	
CLEAR CREEK	11.0	9.0	8.4	6.0	CUCHARAS & HUERFANO RI	VER 4	158	173	
GREAT PLAINS	150.0	0.0	0.0	40.6	PURGATOIRE RIVER BASIN	2	194	234	
HOLBROOK	7.0	1.5	0.0	4.7	TOTAL ARKANSAS RIVER E	BASI 14	123	107	
HORSE CREEK	28.0	0.0	0.0	11.3					
JOHN MARTIN	335.7	81.6	12.4	123.7					
LAKE HENRY	8.0	8.5	6.4	6.0					
MEREDITH	42.0	37.7	24.0	20.1					
PUEBLO	236.7	136.6	113.5	163.5					
TRINIDAD	72.3	31.5	25.4	29.1					
TURQUOISE	126.6	71.0	64.2	70.8					
TWIN LAKES	86.0	35.8	37.1	41.3					

^{* 90%, 70%, 50%, 30%,} and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

^{(1) -} The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels. (2) - The value is natural volume - actual volume may be affected by upstream water management.

UPPER RIO GRANDE RIVER BASIN as of May 1, 2005





Despite a sharp midmonth drop, snowpack levels on the Upper Rio Grande remain well above average this month. Snowpack levels remained stable early in the month, dropped sharply midmonth, then recovered slightly as snow late in the month helped augment an already solid water supply. The highest since 1995, the Upper Rio Grande is at 139% of its average snowpack, very similar to last month's reading of 140% of average. Snow levels remain high throughout the basin. April saw 110% of its average precipitation, putting the year to date precipitation at 131%. Reservoir storage in the basin is only at 56% of average and 19% of capacity. Low water storage figures might be due to the anticipation of a higher than normal spring runoff. Due to high snowpack levels, seasonal streamflow in the Upper Rio Grande basin is expected to be well above average on all waterways and should be a big help in filling thirsty reservoirs. At an expected 106% of average, streamflow on Saguache Creek near Saguache is the lowest expected flow in the Rio Grande basin. On the other hand, Sangre de Cristo Creek is expected to run at 177% of its average flow and Trinchera, Culebra, and Ute Creeks are all expected to run at over 160% of their average flows.

^{*}Based on selected stations

UPPER RIO GRANDE BASIN

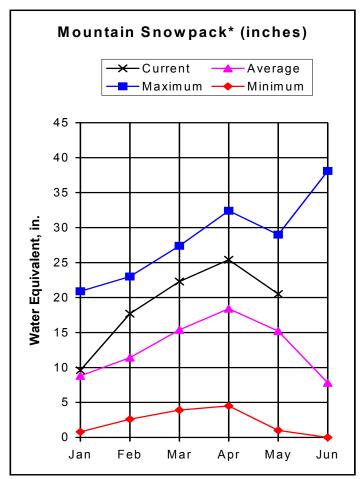
Streamflow Forecasts - May 1, 2005

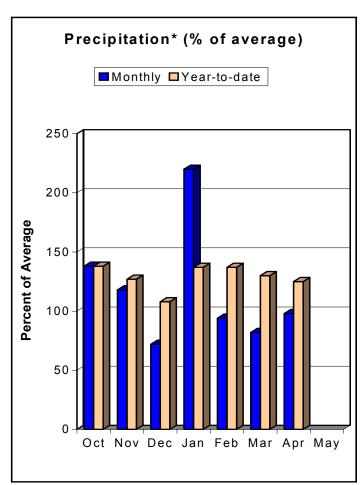
		Streamiliov							
		<<=====	Drier ==	====	Future Co	onditions ==	===== Wette	r ====>>	 -
Forecast Point	Forecast			=== Ch		Exceeding * =			
		90% (1000AF)			(1000AF)	0% (% AVG.)		10% (1000AF)	
Rio Grande at Thirty Mile Bridge	APR-SEP	163	185	== === !	200	147	215	240	136
Rio Grande Reservoir Inflow	APR-JUL	143	160		175	148	188	210	118
Rio Grande at Wagon Wheel Gap	APR-SEP	410	460	ļ ļ	500	145	540	605	345
South Fork Rio Grande at South Fork	APR-SEP	178	195	-	205	155	220	240	132
Rio Grande nr Del Norte	APR-SEP	655	725		785	148	845	935	531
Saguache Creek nr Saguache	APR-SEP	25	30	İ	35	106	40	49	33
Alamosa Creek abv Terrace Reservoir	APR-SEP	85	95	į	100	143	109	119	70
La Jara Creek nr Capulin	MAR-JUL	10.00	11.70	į	13.00	149	14.40	16.80	8.70
Trinchera Creek	APR-SEP	16.0	18.4	į	19.4	162	20	22	12.0
Sangre de Cristo Creek	APR-SEP	10.80	13.60	į	15.60	177	17.70	20.70	8.80
Ute Creek	APR-SEP	16.1	17.9	į	19.9	163	22	24	12.2
Platoro Reservoir Inflow	APR-JUL APR-SEP	71 80	79 87		84 93	131 131	90 99	99 108	64 71
Conejos River nr Mogote	APR-SEP	225	250		270	135	290	325	200
San Antonio River at Ortiz	APR-SEP	18.7	22	į	23	140	26	30	16.4
Los Pinos River nr Ortiz	APR-SEP	84	93	į	101	137	109	121	74
Culebra Creek at San Luis	APR-SEP	25	32	į	38	165	44	54	23
Costilla Reservoir inflow	MAR-JUL	15.6	17.0	į	18.0	170	19.0	20	10.6
Costilla Creek nr Costilla	MAR-JUL	38	42	į	44	169	46	50	26
UPPER RIO 0 Reservoir Storage (1000	GRANDE BASI) AF) - End	N of April			 	UPP Watershed Sn	ER RIO GRAND owpack Analy	E BASIN sis - May 1,	
	Usable		e Storage		======= 	=======	Numb		Year as % of
Reservoir	Capacity 	Year	Last Year	Avg	Water		of Data S	ites Last	Yr Average
CONTINENTAL	15.0	5.8	5.8	6.6	1	SA CREEK BAS			120
PLATORO	53.7	4.5	5.6	23.3	CONEJ	JOS & RIO SAN	ANTONIO 4	128	128
RIO GRANDE	51.0	18.8	14.4	21.4	CULEE	BRA & TRINCHE	RA CREEK 5	142	189
SANCHEZ	103.0	12.4	15.7	25.8	UPPER	R RIO GRANDE	BASIN 12	140	134
SANTA MARIA	45.0	5.2	4.0	11.1	TOTAL	UPPER RIO G	RANDE BA 23	136	139
TERRACE	13.1	6.6	6.6	7.8					
					l 				

^{* 90%, 70%, 50%, 30%,} and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

^{(1) -} The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels. (2) - The value is natural volume - actual volume may be affected by upstream water management.

SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN RIVER BASINS as of May 1, 2005





The water supply outlook for the San Miguel, Dolores, Animas, and San Juan basins is very similar to that of the Rio Grande. Snow levels remained stable early in April, then experienced a sharp decline. April ended with a slight recovery, putting the snowpack level in the San Miguel, Dolores, Animas, and San Juan basins at 135% of average for May 1, down slightly from 138% of average last month but at 160% of the reading for this time last year. Like the Rio Grande, this year's is the best May 1 snowpack since 1995. Individually, the Animas River basin is at 131% of average, the Dolores is at 119%, the San Miguel is at 132%, and the San Juan is at 147%. Precipitation for the month of April was 98% of average, putting year to date precipitation at 125% of average. Unlike the Rio Grande, reservoirs in the San Miguel, Dolores, Animas, and San Juan basins are at 98% of their average storage and 72% of capacity. Streamflow should be a reflection of favorable snowpack conditions. All waterways are expected to flow at above average, many exceeding 150% of average. The Animas at Durango is forecast to run at 143% of average while inflows at Vallecito and Lemon Reservoirs should be at 161% and 172% of average, respectively.

^{*}Based on selected stations

SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN RIVER BASINS
Streamflow Forecasts - May 1, 2005

		<<=====	Drier ====	== Future Co	nditions ==	===== Wetter	==== Wetter ====>>					
Forecast Point	Forecast Period	90% (1000AF)	70% (1000AF)	5 (1000AF)	0% (% AVG.)		10% (1000AF)	30-Yr Avg. (1000AF)				
 Dolores River at Dolores	APR-JUL	255	295	325	123	360	410	265				
McPhee Reservoir inflow	APR-JUL	350	395	430	134	465	520	320				
San Miguel River nr Placerville	APR-JUL	119	131	145	110	160	183	132				
Gurley Reservoir Inlet	MAY-JUL MAY JUNE JULY	13.6	16.0	17.7 10.20 6.00 1.50	120 116 129 114	19.4	22	14.8 8.83 4.67 1.32				
Cone Reservoir Inlet	MAY-JUL MAY JUNE JULY	3.10	3.50	3.70 2.10 1.20 0.35	121 128 115 92	3.90	4.30	3.06 1.64 1.04 0.38				
Lilylands Reservoir Inlet	MAY-JUL MAY JUNE JULY	2.08	2.63	3.00 1.58 1.10 0.32	122 120 126 119	3.40	3.90	2.45 1.32 0.87 0.27				
Rio Blanco at Blanco Diversion	APR-JUL	67	75	81	153	87	98	53				
Navajo River at Oso Diversion	APR-JUL	79	91	100	145	110	124	69				
San Juan River nr Carracus	APR-JUL	510	570	615	152	660	735	405				
Piedra River nr Arboles	APR-JUL	330	365	 390	170	415	455	230				
Vallecito Reservoir Inflow	APR-JUL	285	310	330	161	350	380	205				
Navajo Reservoir Inflow	APR-JUL	1090	1260	1380	173	1520	1740	800				
Animas River at Durango	APR-JUL	545	595	 630	143	670	725	440				
Lemon Reservoir Inflow	APR-JUL	78	90	100	172	110	126	58				
La Plata River at Hesperus	APR-JUL	31	35	38	152	42	47	25				
Mancos River nr Mancos	APR-JUL MAY JUNE JULY	47	55	 61 26 22 5.50	153 164 161 120	67	75	40 15.9 13.7 4.60				

Reservoir Storage (100	0 AF) - End	of April			Watershed Snowpack Analysis - May 1, 2005						
Reservoir	Usable Capacity	*** Usable Storage *** This Last			 Watershed	Number of	This Year as % of				
	 =========	Year	Year =======	Avg	 	Data Sites	Last Yr	Average			
GROUNDHOG	21.7	0.1	10.4	14.2	ANIMAS RIVER BASIN	9	144	131			
JACKSON GULCH	10.0	9.2	6.3	7.4	DOLORES RIVER BASIN	6	176	119			
LEMON	40.0	13.6	17.0	23.4	SAN MIGUEL RIVER BASIN	5	183	132			
MCPHEE	381.2	345.0	228.7	304.6	SAN JUAN RIVER BASIN	4	162	147			
NARRAGUINNEP	19.0	18.7	19.0	17.1	TOTAL SAN MIGUEL, DOLO	RES 23	160	135			
VALLECITO	126.0	43.7	88.6	70.3	AN JUAN RIVER BASINS						

^{* 90%, 70%, 50%, 30%,} and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

^{(1) -} The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels. (2) - The value is natural volume - actual volume may be affected by upstream water management.



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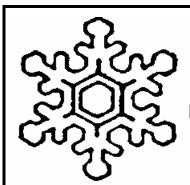
In addition to the basin outlook reports, water supply forecast information for the Western United States is available from the Natural Resources Conservation Service and the National Weather Service monthly, January through May. The information may be obtained from the National Resources Conservation Service web page at http://www.wcc.nrcs.usda.gov/wsf/westwide.html.

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Colorado Basin Outlook Report

Natural Resources Conservation Service Lakewood, CO

